



SEQUENCE LISTING

<110> WOODS, VIRGIL L. JR.

<120> METHODS FOR CRYSTALLOGRAPHIC STRUCTURE DETERMINATION
EMPLOYING HYDROGEN EXCHANGE ANALYSIS

<130> 041673-3202

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<160> 17

<170> PatentIn Ver. 3.3

<210> 1

<211> 104

<212> PRT

<213> Equus caballus

<400> 1

Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Val Gln Lys Cys Ala Gln
1 5 10 15

Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr Gly Pro Asn Leu
20 25 30

His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro Gly Phe Thr Tyr
35 40 45

Thr Asp Ala Asn Lys Asn Lys Gly Ile Thr Trp Lys Glu Glu Thr Leu
50 55 60

Met Glu Tyr Leu Glu Asn Pro Lys Lys Tyr Ile Pro Gly Thr Lys Met
65 70 75 80

Ile Phe Ala Gly Ile Lys Lys Lys Thr Glu Arg Glu Asp Leu Ile Ala
85 90 95

Tyr Leu Lys Lys Ala Thr Asn Glu
100

<210> 2

<211> 289

<212> PRT

<213> Homo sapiens

<400> 2

Ser Gly Lys Lys Val Thr Leu Asn Pro Ser Asp Pro Glu His Gly Gln
1 5 10 15

Ile Gly His Gly Asp Val Val Asn Leu Thr Gly Glu Ala Gly Gln Glu
20 25 30

Pro Gly Gly Leu Val Val Pro Pro Thr Asp Ala Pro Val Ser Pro Thr
 35 40 45
 Thr Leu Tyr Val Glu Asp Ile Ser Glu Pro Pro Leu His Asp Phe Tyr
 50 55 60
 Cys Ser Arg Leu Leu Asp Leu Val Phe Leu Leu Asp Gly Ser Ser Arg
 65 70 75 80
 Leu Ser Glu Ala Glu Phe Glu Val Leu Lys Ala Phe Val Val Asp Met
 85 90 95
 Met Glu Arg Leu Arg Val Ser Gln Lys Trp Val Arg Val Ala Val Val
 100 105 110
 Glu Tyr His Asp Gly Ser His Ala Tyr Ile Gly Leu Lys Asp Arg Lys
 115 120 125
 Arg Pro Ser Glu Leu Arg Arg Ile Ala Ser Gln Val Lys Tyr Ala Gly
 130 135 140
 Ser Gln Val Ala Ser Thr Ser Glu Val Leu Lys Tyr Thr Leu Phe Gln
 145 150 155 160
 Ile Phe Ser Lys Ile Asp Arg Pro Glu Ala Ser Arg Ile Ala Leu Leu
 165 170 175
 Leu Met Ala Ser Gln Glu Pro Gln Arg Met Ser Arg Asn Phe Val Arg
 180 185 190
 Tyr Val Gln Gly Leu Lys Lys Lys Lys Val Ile Val Ile Pro Val Gly
 195 200 205
 Ile Gly Pro His Ala Asn Leu Lys Gln Ile Arg Leu Ile Glu Lys Gln
 210 215 220
 Ala Pro Glu Asn Lys Ala Phe Val Leu Ser Ser Val Asp Glu Leu Glu
 225 230 235 240
 Gln Gln Arg Asp Glu Ile Val Ser Tyr Leu Cys Asp Leu Ala Pro Glu
 245 250 255
 Ala Pro Pro Pro Thr Leu Pro Pro His Met Ala Gln Val Thr Val Gly
 260 265 270
 Pro Gly Leu Leu Gly Val Ser Thr Leu Gly Pro Lys Arg Asn Ser Met
 275 280 285
 Val

<210> 3
 <211> 213
 <212> PRT
 <213> Gallus gallus

<400> 3

Met Val His Gln Phe Phe Arg Asp Met Asp Asp Glu Glu Ser Trp Ile
 1 5 10 15

Lys Glu Lys Lys Leu Leu Val Ser Ser Glu Asp Tyr Gly Arg Asp Leu
 20 25 30

Thr Gly Val Gln Asn Leu Arg Lys Lys His Lys Arg Leu Glu Ala Glu
 35 40 45

Leu Ala Ala His Glu Pro Ala Ile Gln Ser Val Leu Asp Thr Gly Lys
 50 55 60

Lys Leu Ser Asp Asp Asn Thr Ile Gly Lys Glu Glu Ile Gln Gln Arg
 65 70 75 80

Leu Ala Gln Phe Val Asp His Trp Lys Glu Leu Lys Gln Leu Ala Ala
 85 90 95

Ala Arg Gly Gln Arg Leu Glu Glu Ser Leu Glu Tyr Gln Gln Phe Val
 100 105 110

Ala Asn Val Glu Glu Glu Glu Ala Trp Ile Asn Glu Lys Met Thr Leu
 115 120 125

Val Ala Ser Glu Asp Tyr Gly Asp Thr Leu Ala Ala Ile Gln Gly Leu
 130 135 140

Leu Lys Lys His Glu Ala Phe Glu Thr Asp Phe Thr Val His Lys Asp
 145 150 155 160

Arg Val Asn Asp Val Cys Ala Asn Gly Glu Asp Leu Ile Lys Lys Asn
 165 170 175

Asn His His Val Glu Asn Ile Thr Ala Lys Met Lys Gly Leu Lys Gly
 180 185 190

Lys Val Ser Asp Leu Glu Lys Ala Ala Ala Gln Arg Lys Ala Lys Leu
 195 200 205

Asp Glu Asn Ser Ala
 210

<210> 4

<211> 213

<212> PRT

<213> Gallus gallus

<400> 4

Met Val His Gln Phe Phe Arg Asp Met Asp Asp Glu Glu Ser Trp Ile
 1 5 10 15

Lys Glu Lys Lys Leu Leu Val Ser Ser Glu Asp Tyr Gly Arg Asp Leu
 20 25 30

Thr Gly Val Gln Asn Leu Arg Lys Lys His Lys Arg Leu Glu Ala Glu
 35 40 45

Leu Ala Ala His Glu Pro Ala Ile Gln Ser Val Leu Asp Thr Gly Lys
 50 55 60
 Lys Leu Ser Asp Asp Asn Thr Ile Gly Lys Glu Glu Ile Gln Gln Arg
 65 70 75 80
 Leu Ala Gln Phe Val Asp His Trp Lys Glu Leu Lys Gln Leu Ala Ala
 85 90 95
 Ala Arg Gly Gln Arg Leu Glu Glu Ser Leu Glu Tyr Gln Gln Phe Val
 100 105 110
 Ala Asn Val Glu Glu Glu Glu Ala Trp Ile Asn Glu Lys Met Thr Leu
 115 120 125
 Val Ala Ser Glu Asp Tyr Gly Asp Thr Leu Ala Ala Ile Gln Gly Leu
 130 135 140
 Leu Lys Lys His Glu Ala Phe Glu Thr Asp Phe Thr Val His Lys Asp
 145 150 155 160
 Arg Val Asn Asp Val Cys Ala Asn Gly Glu Asp Leu Ile Lys Lys Asn
 165 170 175
 Asn His His Val Glu Asn Ile Thr Ala Lys Met Lys Gly Leu Lys Gly
 180 185 190
 Lys Val Ser Asp Leu Glu Lys Ala Ala Ala Gln Arg Lys Ala Lys Leu
 195 200 205
 Asp Glu Asn Ser Ala
 210

<210> 5

<211> 415

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic protein construct

<400> 5

Ser Ile Glu Ile Pro Ala Gly Leu Thr Glu Leu Leu Gln Gly Phe Thr
 1 5 10 15
 Val Glu Val Leu Arg His Gln Pro Ala Asp Leu Leu Glu Phe Ala Leu
 20 25 30
 Gln His Phe Thr Arg Leu Gln Gln Glu Asn Glu Arg Lys Gly Ala Ala
 35 40 45
 Arg Phe Gly His Glu Gly Arg Thr Trp Gly Asp Ala Gly Ala Ala Ala
 50 55 60

Gly Gly Gly Thr Pro Ser Lys Gly Val Asn Phe Ala Glu Glu Pro Met
 65 70 75 80
 Arg Ser Asp Ser Glu Asn Gly Glu Glu Glu Glu Ala Ala Glu Ala Gly
 85 90 95
 Ala Phe Asn Ala Pro Val Ile Asn Arg Phe Thr Arg Arg Ala Ser Val
 100 105 110
 Cys Ala Glu Ala Tyr Asn Pro Asp Glu Glu Glu Asp Asp Ala Glu Ser
 115 120 125
 Arg Ile Ile His Pro Lys Thr Asp Asp Gln Arg Asn Arg Leu Gln Glu
 130 135 140
 Ala Cys Lys Asp Ile Leu Leu Phe Lys Asn Leu Asp Pro Glu Gln Met
 145 150 155 160
 Ser Gln Val Leu Asp Ala Met Phe Glu Lys Leu Val Lys Glu Gly Glu
 165 170 175
 His Val Ile Asp Gln Gly Asp Asp Gly Asp Asn Phe Tyr Val Ile Asp
 180 185 190
 Arg Gly Thr Phe Asp Ile Tyr Val Lys Cys Asp Gly Val Gly Arg Cys
 195 200 205
 Val Gly Asn Tyr Asp Asn Arg Gly Ser Phe Gly Glu Leu Ala Leu Met
 210 215 220
 Tyr Asn Thr Pro Arg Ala Ala Thr Ile Thr Ala Thr Ser Pro Gly Ala
 225 230 235 240
 Leu Trp Gly Leu Asp Arg Val Thr Phe Arg Arg Ile Ile Val Lys Asn
 245 250 255
 Asn Ala Lys Lys Arg Lys Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro
 260 265 270
 Phe Leu Lys Ser Leu Glu Val Ser Glu Arg Leu Lys Val Val Asp Val
 275 280 285
 Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly
 290 295 300
 Asp Ser Ala Asp Ser Phe Phe Ile Val Glu Ser Gly Glu Val Arg Ile
 305 310 315 320
 Thr Met Lys Arg Lys Gly Lys Ser Asp Ile Glu Glu Asn Gly Ala Val
 325 330 335
 Glu Ile Ala Arg Cys Leu Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu
 340 345 350
 Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val
 355 360 365

Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro
 370 375 380

Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu
 385 390 395 400

Val Ala Leu Phe Gly Thr Asn Met Asp Ile Val Glu Pro Thr Ala
 405 410 415

<210> 6

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 6

Ser Ile Glu Ile Pro Ala Gly Leu Thr Glu Leu Leu Gln Gly Phe Thr
 1 5 10 15

Val Glu Val Leu Arg His Gln Pro Ala Asp Leu
 20 25

<210> 7

<211> 102

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 7

Leu Leu Glu Phe Ala Leu Gln His Phe Thr Arg Leu Gln Gln Glu Asn
 1 5 10 15

Glu Arg Lys Gly Ala Ala Arg Phe Gly His Glu Gly Arg Thr Trp Gly
 20 25 30

Asp Ala Gly Ala Ala Ala Gly Gly Gly Thr Pro Ser Lys Gly Val Asn
 35 40 45

Phe Ala Glu Glu Pro Met Arg Ser Asp Ser Glu Asn Gly Glu Glu Glu
 50 55 60

Glu Ala Ala Glu Ala Gly Ala Phe Asn Ala Pro Val Ile Asn Arg Phe
 65 70 75 80

Thr Arg Arg Ala Ser Val Cys Ala Glu Ala Tyr Asn Pro Asp Glu Glu
 85 90 95

Glu Asp Asp Ala Glu Ser
 100

<210> 8
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 8
 Gly Glu Leu Ala Leu Met Tyr Asn Thr Pro Arg Ala Ala Thr Ile Thr
 1 5 10 15

Ala

<210> 9
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 9
 Ala Val Glu Ile Ala Arg Cys Leu Arg Gly Gln Tyr Phe Gly Glu Leu
 1 5 10 15

Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile
 20 25 30

<210> 10
 <211> 23
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 10
 Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Val Glu Ser Gly Glu
 1 5 10 15

Val Arg Ile Thr Met Lys Arg
 20

<210> 11
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 11
 Val Gln Ala Phe Glu Arg Leu
 1 5

<210> 12
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 12
 Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Phe
 1 5 10 15

<210> 13
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 13
 Ile Leu Leu Phe Lys
 1 5

<210> 14
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 14
 Arg Val Thr Phe Arg Arg Ile Ile Val Lys Asn Asn Ala Lys Lys Arg
 1 5 10 15

Lys Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys
 20 25 30

<210> 15
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 15

Val	Gln	Ala	Phe	Glu	Arg	Leu	Leu	Gly	Pro	Cys	Met
1				5					10		

<210> 16

<211> 193

<212> PRT

<213> *Thermotoga maritima*

<400> 16

Met	Gly	Ser	Asp	Lys	Ile	His	His	His	His	His	His	Met	Arg	Lys	Ala
1				5						10				15	

Trp	Val	Lys	Thr	Leu	Ala	Leu	Asp	Arg	Val	Ser	Asn	Thr	Pro	Val	Val
			20					25					30		

Ile	Leu	Gly	Ile	Glu	Gly	Thr	Asn	Arg	Val	Leu	Pro	Ile	Trp	Ile	Gly
		35					40						45		

Ala	Cys	Glu	Gly	His	Ala	Leu	Ala	Leu	Ala	Met	Glu	Lys	Met	Glu	Phe
	50					55					60				

Pro	Arg	Pro	Leu	Thr	His	Asp	Leu	Leu	Leu	Ser	Val	Leu	Glu	Ser	Leu
	65				70					75					80

Glu	Ala	Arg	Val	Asp	Lys	Val	Ile	Ile	His	Ser	Leu	Lys	Asp	Asn	Thr
			85						90					95	

Phe	Tyr	Ala	Thr	Leu	Val	Ile	Arg	Asp	Leu	Thr	Tyr	Thr	Asp	Glu	Glu
		100						105					110		

Asp	Glu	Glu	Ala	Ala	Leu	Ile	Asp	Ile	Asp	Ser	Arg	Pro	Ser	Asp	Ala
		115				120						125			

Ile	Ile	Leu	Ala	Val	Lys	Thr	Gly	Ala	Pro	Ile	Phe	Val	Ser	Asp	Asn
	130					135					140				

Leu	Val	Glu	Lys	His	Ser	Ile	Glu	Leu	Glu	Val	Asn	Glu	Thr	Gln	Asp
	145				150					155				160	

Glu	Glu	Glu	Glu	Phe	Lys	Lys	Phe	Val	Glu	Asn	Leu	Asn	Ile	Asp	Thr
			165					170						175	

Phe	Lys	Gln	Met	Ile	Glu	Lys	Lys	Arg	Glu	Glu	Asp	Glu	Glu	Gly	Glu
			180					185					190		

Ser

<210> 17

<211> 157

<212> PRT

<213> *Thermotoga maritima*

<400> 17

Met	Gly	Ser	Asp	Lys	Ile	His	His	His	His	His	His	Met	Arg	Lys	Ala
1				5						10				15	

Trp	Val	Lys	Thr	Leu	Ala	Leu	Asp	Arg	Val	Ser	Asn	Thr	Pro	Val	Val
			20					25					30		

Ile	Leu	Gly	Ile	Glu	Gly	Thr	Asn	Arg	Val	Leu	Pro	Ile	Trp	Ile	Gly
		35					40						45		

Ala	Cys	Glu	Gly	His	Ala	Leu	Ala	Leu	Ala	Met	Glu	Lys	Met	Glu	Phe
	50					55					60				

Pro	Arg	Pro	Leu	Thr	His	Asp	Leu	Leu	Leu	Ser	Val	Leu	Glu	Ser	Leu
65					70					75				80	

Glu	Ala	Arg	Val	Asp	Lys	Val	Ile	Ile	His	Ser	Leu	Lys	Asp	Asn	Thr
			85						90					95	

Phe	Tyr	Ala	Thr	Leu	Val	Ile	Arg	Asp	Leu	Thr	Tyr	Thr	Asp	Glu	Glu
			100					105					110		

Asp	Glu	Glu	Ala	Ala	Leu	Ile	Asp	Ile	Asp	Ser	Arg	Pro	Ser	Asp	Ala
		115					120					125			

Ile	Ile	Leu	Ala	Val	Lys	Thr	Gly	Ala	Pro	Ile	Phe	Val	Ser	Asp	Asn
130						135					140				

Leu	Val	Glu	Lys	His	Ser	Ile	Glu	Leu	Glu	Val	Asn	Glu
145					150						155	